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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,697	02/18/2004	Bulent M. Basol	ASMNUT.031CP1	5582

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EXAMINER

TRINH, MICHAEL MANH

ART UNIT	PAPER NUMBER
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2822

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	01/26/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/26/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
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Office Action Summary

Application No.

10/782,697

Applicant(s)

BASOL ET AL.

Examiner

Michael Trinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 11-15 and 22-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 16-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/17/05.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

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DETAILED ACTION

*** This office action is in response to Applicant's election filed on November 07, 2006.

Claims 1-21 are pending, in which claims 11-15,22-24 are non-elected, without traverse.

Election/Restrictions

** Claims 11-15 and 22-24 are withdrawn from further consideration pursuant to 37 CFR

1.142(b) as being drawn to nonelected invention/species. Election was made without traverse in

Paper mail date November 07, 2006.

Specification

1. The disclosure is objected to because of the following informalities: Specification page 1, information of parent application Serial No. 10/032,318 should be updated to include U.S. Patent No. 6,833,063. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1-5,7-9,16-19,21 are rejected under 35 U.S.C. 102(e)/(a) as being anticipated by Hongo et al (6,615,854).

Re claim 1, Hongo teaches (at Figs 8,7; col 4, lines 50-57; Figs 2,1; col 1, lines 19-45) a method of forming a layer of a conductive material on a wafer, wherein a seed layer coats a front surface and an edge surface of the wafer, and wherein the edge surface includes a back edge surface, a bevel surface and a front edge surface, the method comprising the steps of: removing the seed layer 83 from the back edge surface and the bevel surface; and forming the conductive material 85 onto the seed layer 83 coating the front edge surface and the front surface

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of the wafer (Figs 8,7; col 4, lines 50-57; Figs 2,1; col 1, lines 19-45). Re claim 16, Hongo teaches (at Figs 8,7; col 4, lines 50-57; Figs 2,1; col 1, lines 19-45) a method of forming a layer of a conductive material 85 on a wafer comprising a front surface, a back surface and an edge surface, the edge surface including a back edge surface, a bevel surface and a front edge surface, the method comprising the steps of: depositing a seed layer 83 on the front surface and the edge surface of the wafer; removing the seed layer 83 from the back edge surface and the bevel surface; and forming the layer by depositing the conductive material 85 onto the seed layer coating the front edge surface and the front surface (Figs 8,7; col 4, lines 50-57; Figs 2,1; col 1, lines 19-45). Re claims 2,17, wherein, as shown in Figs 8,7, removing at least a part of the layer 83 which is on the front edge surface. Re claims 3,18, wherein the wafer is rotated during the step of removing the seed layer 83 (Figs 3,7-8; col 2, line 63 through col 4). Re claims 4,19, applying a process solution is applied onto the back edge surface of the wafer while it is rotated (Fig 3; col 3, line 3 through col 4). Re claims 5,21, wherein the step of removing comprises chemical etching (Figs 7-8,3; col 4, lines 50 through col 5, line 12; col 3, line 45 through col 4). Re claim 7, the wafer is rotated prior to the step of removing the at least a part of the layer 83 (Figs 3,7-8; col 3, lines 3-45; col 2, line 63 through col 4). Re claim 8, wherein a process solution is applied to the at least a part of the layer while the wafer is rotated (Figs 3,7,8; col 3, line 3 through col 4, line 67). Re claim 9, wherein the step of removing the at least a part of the layer comprises chemical etching (Figs 7-8,3; col 4, lines 50 through col 5, line 12; col 3, line 45 through col 4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 6,10,20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hongo et al (6,615,854) taken with Volodarsky et al (6,352,623).

Hongo teaches a method for forming a conductive layer as applied to claims 1-5,7-9,16-19,21 above.

Hongo already teaches removing the layer by chemical etching while claims 6,10 and 20 recite removing the layer by electrochemical etching.

However, Volodarsky teaches (at Figs 1-2; col 5, lines 8-27) employing an ECMD process and apparatus for depositing and removing a layer by electrochemical etching or chemical etching.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to remove the layer of Hongo by employing the ECMD process for removing a layer by electrochemical etching or chemical etching as taught by Volodarsky. This is because electrochemical etching and chemical etching are alternative and art recognized equivalent etching process for removing a portion of the layer from the wafer, wherein the electrochemical etching is an effective process for removing a layer in a reliable manner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael M. Trinh whose telephone number is (571) 272-1847. The examiner can normally be reached on M-F: 9:00 Am to 5:30 Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on (571) 272-2429. The central fax phone number is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Oacs-24-1


Michael Trinh
Primary Examiner